

Symposium OPEN IVR

Product Guide

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About this guide

Overview

The *Symposium OPEN IVR Product Guide* provides an overview of Symposium OPEN IVR, as well as a description of hardware, software, and advanced optional features of Release 4.0.

Document organization

This guide includes four chapters.

- Chapter 1, “Overview,” provides general information about interactive voice response and the Symposium OPEN IVR 4.0 product.
- Chapter 2, “Hardware,” provides a descriptive look at the hardware for Symposium OPEN IVR 4.0.
- Chapter 3, “Software,” details all of the software components for Symposium OPEN IVR.
- Chapter 4, “Advanced Optional Features,” describes the advanced options available with Release 4.0.

Conventions used in this guide

Throughout this guide, several typographic conventions have been used to highlight certain types of information:

- Items that appear on the Symposium OPEN IVR 4.0 screens are identified in quotes, for example:
the “Timeout” part of the parameters window
- Prompts, file and menu names, directories, accounts and options are shown in a different typeface, for example:
`/sci>`
`sci/install menu`
`/u/nortel/3270/getbalance.act` file
- Symposium OPEN IVR 4.0 buffer names are shown in all uppercase characters, for example,
the CURRENT MESSAGE buffer
- Field names are shown in italics, for example:
the *Device* field
- Items you must type are shown in bold in a different typeface, for example:
type **tn5250** at the prompt
- Variables shown in command lines appear in italics, for example:
the `host_cfgn` file, where *n* is a variable representing a board number
- Key names you press are shown in angled brackets, for example:
the <F1> key
- Keyboards usually have keys named <Return> or <Enter> that perform the same function. For convenience, this guide uses the keyname <Enter> to represent both keynames.

Symposium OPEN IVR 4.0 documentation

These are the documents in the Symposium OPEN IVR Release 4.0 documentation suite.

Document	NT number/ A0 number/ P0 number	Europe document numbers
<i>Symposium OPEN IVR 4.0 Getting Started Guide</i>	NTVE8201 A0732100 P0881271	NTVE8301 A0739391
<i>Symposium OPEN IVR 4.0 Product Guide</i>	NTVE8202 A0732101 P0881273	NTVE8302 A0739399
<i>Symposium OPEN IVR 4.0 System Administration Guide</i>	NTVE8203 A0732102 P0881274	NTVE8303 A0739416
<i>Symposium OPEN IVR 4.0 Application Development Guide (shipped with Development systems only)</i>	NTVE8209 A0732108 P0881275	NTVE8309 A0739449
<i>Symposium OPEN IVR 4.0 Cell Catalog (shipped with Development systems only)</i>	NTVE8208 A0732107 P0881276	NTVE8308 A0739448
<i>Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide</i>	NTVE8204 A0732103 P0881277	NTVE8304 A0739418
<i>Symposium OPEN IVR Planning and Engineering Guide</i>	NTVE8205 A0732104 P0881278	NTVE8305 A0739435
<i>Symposium OPEN IVR 4.0 Error Messages Guide</i>	NTVE8206 A0732105 P0881279	NTVE8306 A0739436

<i>Symposium OPEN IVR 4.0 Web Option Guide</i>	NTVE8210 A0732109 P0881281	NTVE8310 A0739450
<i>Symposium OPEN IVR 4.0 SQL Server User Guide</i>	NTVE8216 A0732115 P0881282	NTVE8316 A0739610
<i>Symposium OPEN IVR 4.0 Service Console Interface Reference Manual</i>	NTVE8207 A0732106 P0881284	NTVE8307 A0739437
<i>Symposium OPEN IVR 4.0 VT100 Host Connectivity Configuration and Development Guide</i>	NTVE8221 A0732120 P0881286	NTVE8321 A0739615
<i>Symposium OPEN IVR 4.0 Text-to-Speech Option Guide</i>	NTVE8213 A0732112 P0881292	NTVE8313 A0739453
<i>Symposium OPEN IVR 4.0 Speech Recognition Option Guide</i>	NTVE8212 A0732111 P0881293	NTVE8312 A0739452
<i>Symposium OPEN IVR 4.0 Fax Option Guide</i>	NTVE8211 A0732110 P0881294	NTVE8311 A0739451
<i>Symposium OPEN IVR 4.0 CAS and ISDN Signaling Option Guide</i>	NTVE8214 A0732113 P0881296	NTVE8314 A0739608
<i>Symposium OPEN IVR 4.0 Integration Package for Meridian Link User Guide</i>	P0881297 NTVE8215 A0732114	NTVE8315 A0739609
<i>Symposium OPEN IVR 4.0 Prompt Import Utility Guide</i>	NTVE8218 A0732117 P0881400	NTVE8318 A0739612
<i>Symposium OPEN IVR 4.0 SNA Host Communications Guide</i>	NTVE8227 A0732774 P0881750	NTVE8327 A0732775

Chapter 1: Overview

Introduction

The Symposium OPEN IVR product family is a portfolio of switch-independent, feature-rich, interactive voice response (IVR) products. Voice Response gives callers access to information through the telephone using DTMF and speech recognition. In the case of IVR, the caller can interact with on-line host computers and databases (for example, enter a PIN number on the touch-tone keypad and hear the your current bank account balance).

The typical IVR application initiates a predefined sequence of verbal prompts, providing options and instructions to the caller. It allows the caller to respond to these verbal prompts and instructions via the telephone touch-tone keys, as if the keys were on the keyboard of a computer terminal. In this way, information inquiries and transactions can be carried out directly by the caller with no need for additional human intervention or terminal interface. IVR gives callers access to information through the telephone using DTMF and audio, and allows callers interaction with on-line host computers and databases.

Symposium OPEN IVR Release 4.0 provides the latest in IVR advancements, including fax, text-to-speech, speech recognition, and web technologies.

Who uses IVR?

Organizations can use IVR for the following:

- account information
- customer service
- quotations
- informing callers of closest location
- send faxes to customers to confirm orders
- employment screening
- credit card order processing and tracking
- telephone/Internet integration
- inbound or outbound surveys

Financial organizations

Financial organizations can use IVR so that customers can retrieve up-to-date account information, pay bills, transfer funds, and receive stock quotations.

Health care industries

Health care industries can use IVR to allow customers to inquire about the status of policies, benefits, claims, and other health programs available.

Commercial airlines

Commercial airlines can use IVR so that customers can make inquiries about reservations, arrival and departure times, frequent flyer mileage, and vacation packages.

Educational institutions

Colleges and universities can use IVR for registration, including course selection and availability, and confirmation of admission to a class.

The people within these organizations who are responsible for purchasing an IVR system are usually

- Telecom managers
- Call Center managers
- MIS managers

OPEN IVR benefits

IVR provides labor cost savings, new sources of revenue, and a measure of uniqueness from their competitors through deployment of new or improved customer services via advanced technology.

One of the key benefits of an OPEN IVR system is its compatibility with non-Nortel switches and voice messaging systems.

The benefits of an IVR system include

- improved customer service and satisfaction due to 24-hour access to information with less time spent waiting for a call to be serviced
- reduced business costs because of the decreased need for operators
- accuracy and consistency of information
- system reliability
- potential for increased revenues due to lower labor costs and OPEN IVR's ability to handle a large volume of calls
- customer privacy and confidentiality as the customers interact directly with a computer
- increased employee productivity because OPEN IVR eliminates the need for employees to spend time repeatedly providing routine information

Symposium OPEN IVR system architecture

The Symposium OPEN IVR Release 4.0 product portfolio offers three server platforms to suit your site's specific requirements.

MRS/Tower

The MRS/Tower platform is comprised of an Application Processor (Rack AP or Tower AP) and an MRS/Tower.

MRS/Rack

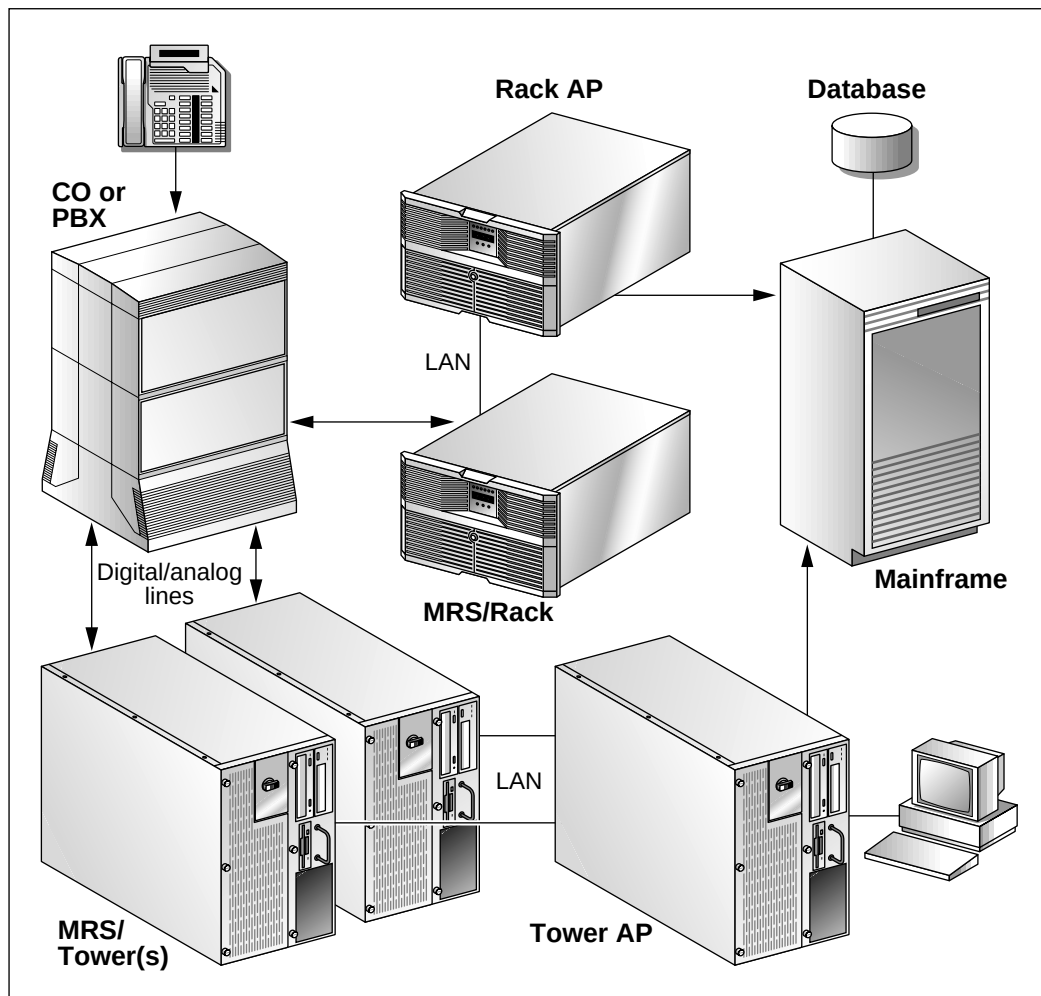
The MRS/Rack platform is comprised of an Application Processor (Rack AP or Tower AP) and an MRS/Rack.

MRS/AP

The MRS/AP is a single unit that runs a “folded” configuration; that is, a configuration that includes both the MRS and the AP in a Tower system. The MRS/AP contains the functionality of the other platforms, but in a single hardware unit.

The following diagram shows sample IVR platforms, with an AP connected to multiple MRSs, host connectivity, and external databases.

Figure 1-1: Symposium OPEN IVR platforms



Note: Figure 1-1 shows the 700tp Tower AP. The 300tp Tower AP is another Tower AP model and serves the same AP function.

Hardware-software compatibility matrix

Existing 2.x PEB-based systems can be upgraded to run Symposium OPEN IVR 4.0. The new Symposium OPEN IVR 4.0 hardware is SCbus-based. The following tables provide the compatibility matrix of OPEN IVR 4.0 software with the hardware.

Table 1-1: Existing release 2.x hardware

Hardware/Software	OPEN IVR 4.0 PEB	OPEN IVR 4.0 SC
MRS/AP	Yes	No
AP	Yes (Bus-Independent)	Yes (Bus-Independent)
MRS/Tower	Yes	No
MRS/Rack	Yes	No

Table 1-2: New hardware

Hardware/Software	OPEN IVR 4.0 PEB	OPEN IVR 4.0 SC
MRS/AP	No	Yes
Tower AP	Yes (Bus-Independent)	Yes (Bus-Independent)
Rack AP	Yes (Bus-Independent)	Yes (Bus-Independent)
MRS/Tower	No	Yes
MRS/Rack	No	Yes

Runtime and Development systems

OPEN IVR provides two types of IVR systems: Runtime, and Development systems. Runtime systems provide a cost effective means of implementing an IVR system without the cost of application development software. With a Runtime system, application development is performed by Value Added Distributor (VAD). The finished applications are then loaded and run on the Runtime system.

Development systems include all the features of the Runtime systems, with the addition of the licensed application development software. The Application Editor provides the tools for application development. A licensed option, Application Editor enables a customer to develop their own applications in house.

A SCO Development license is required for a Development system.

Chapter 2: Hardware

Introduction

The Symposium OPEN IVR architecture combines up to four Multimedia Resource Servers (MRS) with a general purpose Application Processor (AP) to provide a versatile application development, or runtime environment, or both. In this distributed architecture, the MRS provides the information processing environment (for example, voice, fax, speech recognition, text-to-speech) and the telephony (telco) interfaces, and the AP provides the environment for the development and management/control of the IVR applications.

PEB vs. SCbus

Symposium OPEN IVR 4.0 hardware uses a Signal Computing bus (SCbus). OPEN IVR 2.01 and 2.5 hardware uses a PCM Expansion Bus (PEB).

OPEN IVR 2.01 and 2.5 systems can be directly upgraded to Symposium OPEN IVR 4.0 software.

The section “Telco interface cards” on page 2-13 lists the supported telco cards, and indicates which are for PEB-based systems, and which are for SCbus-based systems.

Symposium OPEN IVR 4.0 server dimensions

Table 2-1 shows the dimensions of each server.

Table 2-1: Server dimensions

Server	Dimensions
Tower AP (700tp) MRS/AP (700tp) MRS/Tower (700tp)	17 inches high, 10.5 inches wide, 17.75 inches deep
Tower AP (300tp), MRS/AP (300tp),	17.25 inches high, (18.25 inches with legs), by 8.5 inches wide, by 20 inches deep
Rack AP MRS/Rack	12.5 inches high, 19 inches wide, 19.25 inches deep

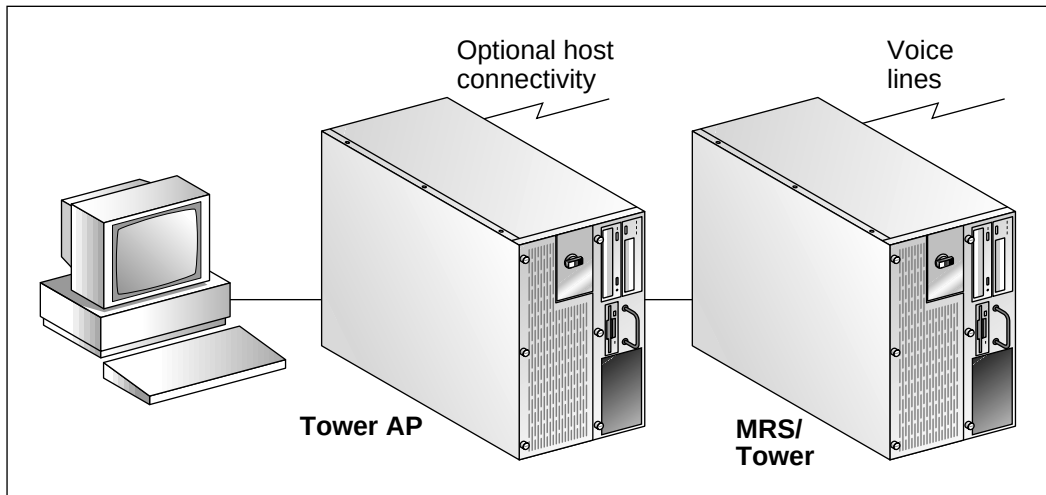
Symposium OPEN IVR hardware overview

The Symposium OPEN IVR hardware consists of the following three configurations:

MRS/Tower

The MRS/Tower supports up to 120 ports and interfaces with an Application Processor, in this case a Tower AP, either via Ethernet or Token Ring.

Figure 2-1: MRS/Tower configuration

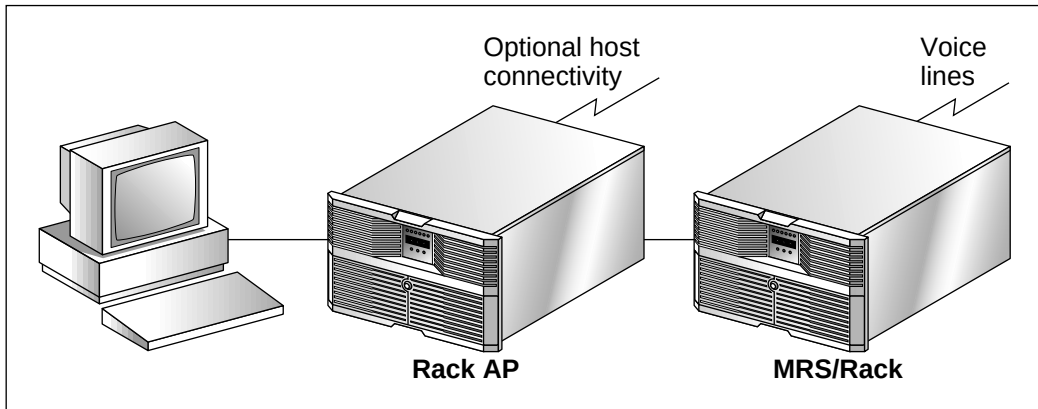


MRS/Rack

The MRS/Rack supports up to 120 ports and interfaces with the Application Processor, in this case a Rack AP, either via Ethernet or Token Ring. Both the MRS/Rack and the Rack AP are rack-mountable and can be installed in a cabinet designed to hold rack-mountable components. Both the MRS/Rack and Rack AP can be purchased in an AC or DC version.

Note: For customers in Europe, only the DC version is supported.

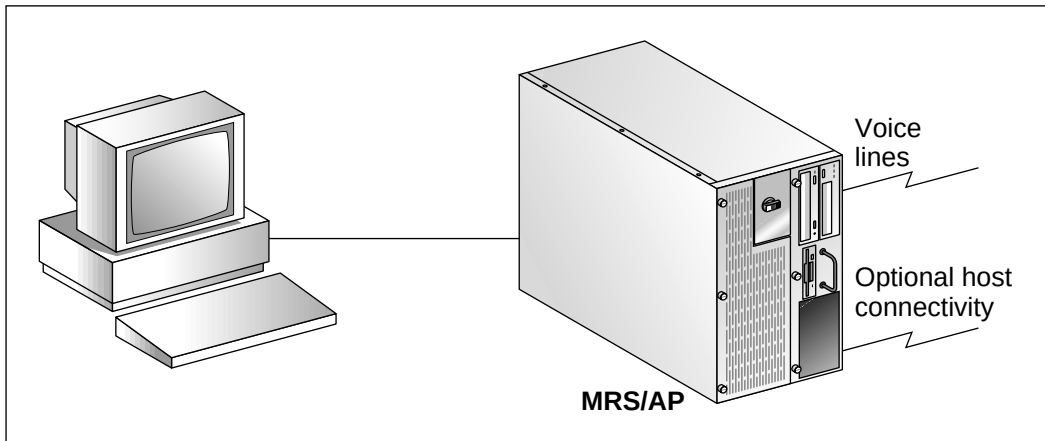
Figure 2-2: MRS/Rack configuration



MRS/AP

The MRS/AP supports up to 96 ports in a single unit that runs a “folded” configuration (that is, a single unit that includes both the MRS and the AP functionality). The MRS/AP contains the functionality of the other platforms, but in a single hardware unit.

Figure 2-3: MRS/AP configuration



Server hardware detail

Tower AP (700tp), MRS/AP (700tp), and MRS/Tower

The same server is used for the Tower AP (700tp), MRS/AP (700tp), and MRS/Tower. The hardware configuration includes the following:

- a passive backplane
- 1 Pentium 200 MHz MMX Processor or faster
- 64 MB RAM (standard)
- 256 MB DRAM (maximum)
- 1 PCI and 1 ISA bus
- Slots: 16 ISA, 3 PCI, 1 CPU
- 1 PCI SCSI 2
- 1 PCI SVGA Adapter
 - 2 MB VRAM max
- 7 storage bays including:
 - 3 x 3.5", 4 x 5.25"
- 2 serial ports, RS-232C 9-pin
- 1 parallel port, Centronics PS/2 compatible, 25-pin
- 1.44 MB floppy drive
- SCSI 32X CD-ROM drive (optional for MRS; included for AP or MRS/AP)
- DAT drive (optional for MRS; included for AP or MRS/AP)
- drive status indicators
- 1 350 W power supply

This server has full agency approvals of CSA, UL, CE, and FCC Class A/B.

Tower AP (300tp) and MRS/AP (300tp)

The same server is used for the Tower AP (300tp) and MRS/AP (300tp). The hardware configuration includes the following:

- passive backplane
- 1 Pentium 233 MHz Processor
- 64 MB RAM (standard)
- 256 MB DRAM (maximum)
- 1 PCI & 1 ISA bus
 - Slots: 9 ISA, 2 PCI (full), 2 PCI (half), 1 CPU
- 1 PCI SCSI-2 Adapter
- 1 PCI SVGA Adapter
 - 2 MB VRAM (maximum)
- 3 storage bays
 - 1 x 3.5", 2 x 5.25"
- 2 serial ports, RS-232C 9-pin
- 1 parallel port, Centronics PS/2 compatible, 25-pin
- drive status indicators
- 1 400 W power supply
- 1 1.44 MB floppy drive
- 1 SCSI 32X CD-ROM drive
- DAT drive

Rack AP and MRS/Rack

The same server is used for the Rack AP and MRS/Rack. The hardware configuration includes the following:

- passive backplane
- 1 Pentium 200 MHz Processor or faster
- 64MB RAM (standard)
- 1 PCI and 1 ISA bus
- Slots: 16 ISA, 3 PCI, 1 CPU
- 2 PCI Fast & Wide SCSI 2
- PCI SVGA Adapter
 - 2 MB VRAM max
- 4 external storage bays
 - - 1 x 3.5", 3x 5.25"
 - 2 serial ports, RS-232C 9-pin
 - 1 parallel port, Centronics PS/2 compatible, 25-pin
 - 1.44 MB floppy
 - SCSI 32X CD-ROM (optional for MRS; included for AP)
 - DAT (optional for MRS; included for AP)
- 400 W AC or -48 V DC power supply
- High Availability features
 - 6 external hot swap disk bays
 - N+1 redundant, hot swap fans
 - Optional N+1 redundant power supplies (AC or DC)
 - system status display (for drives, temperature, fans, power)

This server has full agency approvals of CSA, UL, CE, and FCC Class A/B.

Power

Power supply

Tower AP (700tp) and MRS/AP (700tp)

Both the Tower AP and MRS/AP (700tp) operate on a 350 W power supply, which converts incoming 110/220V AC into DC power (at appropriate voltages) for component operation.

Tower AP (300tp) and MRS/AP (300tp)

Both the Tower AP and MRS/AP (300tp) operate on a 400 W power supply, which converts incoming 110/220V AC into DC power (at appropriate voltages) for component operation.

Rack AP and MRS/Rack

Both the Rack AP and the MRS/Rack operate on a 400 W power supply, which converts incoming 110/220V AC or -48V DC into DC power (at appropriate voltages) for component operation.

MRS/Tower

The MRS/Tower operates on a 350 W power supply, which converts incoming 110/220V AC into DC power (at appropriate voltages) for component operation.

DC power (optional)

The MRS/Rack and the Rack AP system is available with optional DC power.

Redundant DC power option

The redundant power supply option is available on DC-powered Rack APs and MRS/Racks. This provides continuous operation (and seamless switchover) in the event of a power supply failure.

Uninterruptible Power Source

The Uninterruptible Power Source (UPS) option prevents spikes, blackouts, sags, and surges from affecting the normal operation of the AP, MRS/AP, or MRS. The UPS option filters out small utility line fluctuations and isolates the servers from large disturbances by internally disconnecting the server from your facility's power line and continuing to supply power from its internal batteries until the utility power returns to normal.

Media components

Hard disks

The Tower AP, MRS/AP, and the Rack AP includes one 4.5 Gbyte SCSI hard disk; a maximum of two 4.5 Gbyte hard disks are supported. The MRS/Tower and MRS/Rack include one 4.5 GByte Seagate SCSI hard disk which stores the operating system (SCO UNIX), the MRS software, and provides voice/fax storage. A maximum of two 4.5 Gbyte hard disks are supported on the MRS/Tower and MRS/Rack.

Note: The Rack AP and the MRS/Rack hard disks are hot-swappable; that is, the disk can be replaced without powering down the system.

Disk mirroring (optional)

Disk mirroring is available as an option on all servers. The Disk Mirroring option provides the customer with continued operation and data availability in the event of a hard disk failure. For additional information on Disk Mirroring, refer to the *Symposium OPEN IVR Installation, Upgrade, and Maintenance Guide*.

CD-ROM

Each Tower AP, Rack AP, and MRS/AP includes a SCSI 32X CD-ROM drive. The CD-ROM drive is optional on the MRS/Rack and MRS/Tower.

Tape backup system (DAT)

The Tower AP, Rack AP, and MRS/AP each include a 4 to 8 Gbyte digital audio tape (DAT) SCSI tape drive that is used to load software and for system backup and restore. The 4 Gbyte DAT drive is set for hardware compression to store up to 8 Gbyte on a tape. The DAT is optional for the MRS/Tower, and MRS/Rack.

Alarms

The Tower AP, Rack AP, and MRS/AP support five levels of alarms; Advisory, Minor, Major, Critical and Fatal Alarm conditions may be assigned appropriate severity which generates a software action or SNMP trap.

Peripherals

SVGA monitors, keyboard, and mouse

The Tower AP, Rack AP, and MRS/AP require a keyboard, an SVGA monitor, and mouse. An SVGA monitor is not a required option on the Symposium OPEN IVR 4.0 MRS/Tower or MRS/Rack.

A 14-inch monitor and keyboard with built-in mouse comes with the optional cabinet for the Rack AP and MRS/Rack.

The SVGA monitor must

- be multi-synchronous
- support 0.28 (or better) dot pitch resolution
- support resolution up to
 - 1024x768 for 21" monitors
 - 800x600 for 17" monitors
 - 640x480 for 14" monitors

The 21-inch monitor is recommended for a development system, and the 17-inch (optional) SVGA monitor is recommended for a Runtime system.

Note 1: The SVGA monitor needs to be connected to the VGA card that is a standard in all of the Symposium OPEN IVR 4.0 servers.

Note 2: The MRSs only have two COM ports for serial connections. Three devices can use these ports: modem, UPS, and VT100 terminal.

Remote support modem

North American and some Caribbean and Latin American customers receive a US Robotics 33.6K modem with the each server in a new Symposium OPEN IVR 4.0 system. Upgrade customers in those regions require a 33.6 US Robotics modem for their AP or MRS/AP. The modem is able to step down to baud rates of 28.8K, 19.2K, 14.4K or 9.6K as required by the receiving modem.

For countries outside the areas that receive the US Robotics modem, a country-specific variant of this model is available.

A modem is required to provide support organizations with remote access for service, support, and maintenance.

Point-to-Point protocol remote access

Remote dial-in over point-to-point protocol (PPP) has been added for Release 4.0. A PPP connection enables remote access to the AP or MRS/AP GUI interface, and remote support capability which can be used by distributors, business affiliates, and by personnel internal to customer organizations.

PPP remote access requires a 33.6K US Robotics modem (or a country-specific variant of this model) for connection to an AP or MRS/AP.

Uninterruptible power supply (optional)

An optional integrated intelligent uninterruptible power supply (UPS) is used to protect the system against interruptions in power. The UPS can sustain power until the system shuts down gracefully. The optional UPS comes in various models that are suited to your system's requirements. The UPS can be used only for AC-powered systems.

Printer support

The Tower AP, Rack AP, and MRS/AP can be addressed to use an Ethernet or Token Ring network printer.

Additional hardware components

Serial communications card

This card provides eight serial (Tower AP and MRS/Tower: two RS-232C, nine pin. Rack AP: one RS-232C, 9 pin) connections which can be used for a variety of purposes including host connectivity.

Keylock security device

The security keylock is initialized by Nortel manufacturing with a custom serial number. The purpose of the security keylock is to ensure that the Symposium OPEN IVR 4.0 software is installed on the system for which it was purchased. Each AP, MRS, or MRS/AP has a unique keylock.

Note: If the security keylock is removed, the system will shut down after four days.

Cabinet for Rack AP or MRS/Rack (optional)

The optional cabinet can accommodate three servers plus peripherals such as the monitor, mouse, keyboard, and switch-box. The cabinet can hold a combination of Rack APs and MRS/Racks.

An expansion cabinet can be purchased to hold additional servers. A total of six racks can be installed in two cabinets (two Rack APs and four MRS/Racks).

Summary of new telco interface and option cards

The following new telco interface cards for SCbus are supported in this release. These cards are not supported on PEB-based systems.

- ACL-30 Revision 5 — 30-port intelligent E1/PRI interface card (75 and 120 Ohm) with and without tone processing capabilities
- ACL-60 Revision 5 — 60-port intelligent E1/PRI interface card (75 and 120 Ohm) with and without tone processing capabilities

Note: OPEN IVR MRS software Release 4.0 supports up to two ACL Revision 5 cards and has a maximum port capacity of 120 channels.

- D/160SC-LS — 16-port intelligent loopstart interface card with voice processing capabilities
- CP-4/SC — 4-port fax processing board
- CP-6/SC — 6-port fax processing board
- CP-12/SC — 12-port fax processing board

Note: Refer to the individual option guides for more detail on option cards.

Telco interface cards

The telco interface cards provide a physical interface to the telephone switch. The MRS/Tower and MRS/Rack support the following telco interface types: loopstart, T1, E1, QSIG (as a variant of E1), and PRI (as a variant of T1).

The telco interface cards work in conjunction with the voice processing cards via the Signal Computing bus (SCbus) or PCM Expansion Bus (PEB). In some cases, these resources are combined on a single card.

- 4-port Loopstart Interface card (PEB/SCbus).

The D/41E-SC card provides integrated loopstart interface and voice processing resources. It supports up to 4 channels.

Available in North America, Europe, Caribbean, and Latin American regions.

- 8-port Loopstart Interface card (PEB only).

This card provides access to the network using a loopstart signaling protocol, and converts the analog signal into a digital PCM signal for use by a separate voice processing card. The LSI/80 card provides the loopstart interface, and the D/81A card provides voice processing. Each card pair supports up to 8 channels.

Available for systems currently installed in Europe.

- 12-port Loopstart Interface card (PEB only).

This card provides access to the network using a loopstart signaling protocol, and converts the analog signal into a digital PCM signal for use by a separate voice processing card. The LSI/120 card will provide the loopstart interface, and the D/121B card will provide voice processing. Each card pair will support up to 12 channels.

Available for systems currently installed in North America.

- 16-port Loopstart Interface card (SCbus only).

The D/160SC-LS card provides integrated loopstart interface and voice processing resources. It supports up to 16 channels.

Available in North America.

- T1 Interface card (PEB/SCbus).

This card provides integrated T1 interface and voice processing resources. It supports up to 24 channels.

Note: The T1 interface supports μ -law encoding only.

Available in North America, and for systems currently installed in the Caribbean and Latin America.

- E1 Interface card (PEB only).

This card provides an interface to an E1 digital network. The E1 Revision 4 interface card provides the E1 interface.

Each interface card supports up to 30 or 60 channels, depending on the model, and a 75 ohm cabling interface. The 30 port card requires one (1) D/320-SC card for voice processing support; the 60 port card, two such cards.

Symposium OPEN IVR 4.0 supports exactly one E1 card per PEB-based MRS limiting voice port capacity to 30 or 60 ports.

Note: The E1 interface supports A-law encoding only.

Available for systems currently installed in Europe, the Caribbean and Latin America.

- E1 Interface card (SCbus only).

This card provides an interface to an E1 digital network. The E1 Revision 5 interface card provides an E1 interface.

Each interface card supports up to 30 or 60 channels, depending on the model, and a 75 or 120 ohm cabling interface. The 30 port card requires one (1) D/320-SC card for voice processing support; the 60 port card, two such cards.

Symposium OPEN IVR 4.0 will support up to two E1 cards per SCbus-based MRS.

Note: Supports A-law encoding only.

Available for systems in Europe, the Caribbean and Latin America.

- QSIG Interface card (SCbus only).

This card provides a QSIG interface to an E1-capable digital switch. The E1 Revision 5 interface card provides a QSIG interface.

Each interface card supports up to 30 or 60 channels, depending on the model, and a 75 or 120 ohm cabling interface. The 30 port card requires one (1) D/320-SC card for voice processing support; the 60 port card, two such cards.

Symposium OPEN IVR 4.0 supports up to two QSIG/E1 cards per SCbus-based MRS.

Note: Supports A-law encoding only.

Available in Europe, the Caribbean and Latin America.

- PRI Interface card (PEB/SCbus).

This card provides an interface to a Primary Rate ISDN (23B+D) T1 span. The D/240SC-T1 card requires firmware upgrades to provide this interface. These upgrades are available at time of purchase of new systems, and also in the field for existing systems. Once upgraded, this card supports 23 B (Bearer) channels for voice and 1 D (Data) channel for signaling data. Moreover, it supports the following protocol variations:

- Nortel DMS-100, DMS-250
- Lucent (AT&T) 4ESS, 5ESS
- NTT 1500

Available in North America.

Voice processing cards

Some telco interface cards do not include voice processing capability. These cards require a voice processing card on the telephony bus.

The D/81A voice card is paired with the LSI/80 Loopstart interface card.

The D/121B voice card is paired with the LSI/120 Loopstart interface card.

The D/320SC voice card is paired with the E1 interface card.

The D/41E-SC, D/160SC-LS and D/240SC-T1 cards do not require separate voice processing cards.

The voice processing card in the MRS/Rack, MRS/Tower, and MRS/AP is a general-purpose DSP engine that can perform call processing and voice processing functions. The voice processing card uses digital signaling to:

- monitor and control telephone network signaling, such as ringing and hang-up detection, winks, and hook-flash
- provide comprehensive call progress analysis
- store and retrieve voice files
- detect and generate DTMF and MF tones

- compress speech at 24 or 32 kbps rates using the ADPCM coding algorithm

Note: For PEB-based systems, the voice processing card must reside on the same PEB as the network interface.

All voice processing cards will support North American, Caribbean, Latin American, and European call progress tones via country-specific trunk configuration.

Redundant AP

You can assign a secondary (or redundant) AP to an MRS. This allows an MRS to switch to the redundant AP should it lose contact with the primary AP. The secondary AP must be identical to the primary AP and licensed on a per port basis for the AP redundancy option.

Refer to the *Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide* for information about installing redundant APs.

Chapter 3: Software

Overview

This chapter provides an overview of the software components of a Symposium OPEN IVR 4.0 system.

Year 2000 compliance in applications

Symposium OPEN IVR 4.0 is “Year 2000” compliant. Symposium OPEN IVR 4.0 software requires that your applications specify a four-digit date, yyyy, in the year field whenever the year field is used.

IVR software components

Operating system

The operating system for Symposium OPEN IVR 4.0 is the SCO UNIX Operating System Release 5.04, provided by the Santa Cruz Operation.

AP software

Symposium OPEN IVR 4.0 AP software provides the functionality to develop customized speech applications that integrate fax, speech-recognition, and text-to-speech technologies. AP software is one of the few software platforms available that provides robust, easy-to-use speech application development and deployment. Symposium OPEN IVR 4.0 AP software runs on the AP or MRS/AP.

MRS software

Symposium OPEN IVR 4.0 MRS software provides the telephony and voice processing functions, including the fax processing, text-to-speech, and speech recognition, depending on the needs of the IVR application.

Service Console Interface (SCI)

The Service Console Interface (SCI) is a maintenance tool for the MRS which allows you to:

- install or remove MRS software packages
- monitor the MRS
- diagnose system problems

Refer to the *Symposium OPEN IVR Service Console Interface Reference Manual*.

Licensing

Introduction

Each Symposium OPEN IVR 4.0 system requires a license file that identifies the options and hardware purchased for the system.

ATTENTION

A new license file is required if you change your system's configuration or add options.

AP runtime software license option

The AP and MRS/AP runtime software is offered to permit one user and one other user to operate concurrently on a single AP. Application development can not be done on a runtime system.

AP development software license options

The AP and MRS/AP development software is offered in two license options—Dedicated Development Environment, and Shared Development Environment.

The Dedicated Development Environment permits a single developer and one other user to operate concurrently on a single AP. Only one instance of the XWindows Application Editor (XAE) is available for use at any one time.

In the Shared Development Environment, four developers and one other user can operate concurrently on the AP, although there are some limitations.

License manager

Symposium OPEN IVR 4.0 uses a software license manager in order to provide runtime-access protection to the telephony resources and options that you purchase and install. The license manager in Release 4.0 does not change Nortel's standard software and hardware licensing agreement.

Each Symposium OPEN IVR 4.0 order is shipped with a license file diskette. This diskette includes the license file information for each AP and MRS in the IVR node. The file identifies which options are activated on each server. Any changes to your system configuration will require a new license file. The license file is generated by Nortel, based on the information in your order. For upgrades, the license file is generated based on your order, as well as on your existing configuration.

Refer to the *Symposium OPEN IVR Service Console Interface Reference Manual* for additional information about the license manager.



CAUTION

Risk of service interruption

The license file must not be modified in any way. Modifying the contents of the license file may impact your system.

Revalidation of migrated applications

As with any software upgrade, the Symposium OPEN IVR 4.0 contains changes to the software which may impact existing applications.

Value Added Distributors (VADs) are required to revalidate all customer applications in a Release 4.0 development or test environment before promoting the migrated applications to a runtime customer environment for production use.

VADs will be advised to revalidate all customer applications in a development or test environment before promoting the migrated applications to a runtime customer environment for production use. By using the revalidation process, VADs can assist to resolve customer application problems quickly and safely.

If the existing applications require database connectivity, then the AP or MRS/AP must be upgraded to the minimum database version supported with Symposium OPEN IVR 4.0, and all previous applications must be revalidated against the supported Release 4.0 databases. Refer to the *Symposium OPEN IVR Installation, Upgrade, and Maintenance Guide* for application upgrade instructions.

Disk Mirroring (optional)

The Disk Mirroring option provides the capability to retain the integrity of data stored on your system in the event of a disk failure. When utilizing the Disk Mirroring option, two hard disks with the same physical capacity are used. The primary disk used by the system is called the root disk. The parity, or secondary disk, serves to retain a copy of all information stored on the root disk.

In the event of a disk failure, the remaining “good” disk continues to function normally. This allows the server to continue processing and prevents the loss of system data and downtime. At a convenient time, you can replace the failed disk in order to continue to maintain the disk-mirroring functionality.

Only one pair of mirrored disks can be used with on each AP or MRS. The disks must be identical (manufacturer and size).

Refer to the *Symposium OPEN IVR Installation, Upgrade, and Maintenance Guide* for more information about this option.

Simple Network Management Protocol (SNMP)

If your MRS is connected to a TCP/IP network, then you can establish communication with your management network utility through the Service Console Interface (SCI). MRS software supports event reporting through SNMP traps for any message that meets or exceeds your designated threshold.

If you enable communication with the management host or manager, SNMP agents track events within the MRS and alert the remote manager when errors occur. Errors are then sent to the Event Log and forwarded to the network management server.

Note: Although the network management host is not the MRS, the SNMP management system must be included as an entry in the MRS's hosts file and in the IVR AP software system configuration file. MRS software supports IBM NetView.

Refer to the *Symposium OPEN IVR Release System Administration Guide* for additional information about SNMP.

Prompt Import Utility

The Prompt Import Utility facilitates the creation of voice segments from generic ADPCM or AU formats. This allows developers to use previously digitized voice segments, as published on the Web and created by other IVR systems, as the basis for Symposium OPEN IVR 4.0 prompts.

Symposium OPEN IVR 4.0 also now provides batch processing support to the Graphical Prompt Editor, either via the Motif-based GUI or via command line options. This would support, for example, batch truncation of prompts via application of the "trim silence" command for each prompt. For more information on the Prompt Import Utility, see the *Symposium OPEN IVR Prompt Import Utility Guide*.

Chapter 4: Advanced optional features

Introduction

Some new features will not be offered on PEB-based systems as they have been engineered and tested for SCbus operation only. These features are

- PureSpeech Large Vocabulary Speech Recognition
- GammaLink Fax
- Line Side E1 connectivity
- Dial Pulse Detection (DPD)

Text-to-Speech

Text-to-speech (TTS) is the process of converting text—usually in the form of ASCII files—to speech output. It is used in applications where it is inconvenient or impossible to record a human speaker. For example, TTS can be used to “read” a fax or E-mail message to a caller, or to retrieve and “read” information from a large, frequently changing database (for example, stock market quotes).

Here are some key benefits of using text-to-speech systems:

- easy access to computer-based information
- remote access to E-mail and fax (unified messaging)
- quicker, more cost-effective implementation of IVR applications

The majority of today’s networked PCs and workstations are voice-enabled, offering desktop applications that include telephone access. Users are beginning to expect software developers to include text-to-speech technology in their applications, providing a simple means to retrieve textual information over the phone from any remote location.

Symposium OPEN IVR 4.0 offers text-to-speech using both TruVoice and L&H software options across its full range of platforms on a general purpose DSP card.

For more information, refer to the *Symposium OPEN IVR 4.0 Text-to-Speech Option Guide*.

Speech recognition

Automatic Speech Recognition (ASR) is a method for collecting and analyzing human voice data, and then reporting the results of that analysis to identify the contents of the speech. For your IVR applications, this means that you can use speech content as data input for making call flow decisions.

In the past, ASR was used primarily as a substitute for DTMF-based networks. A caller could respond to prompts by speaking instead of pressing touch-tone keys on a telephone keypad. This was particularly useful for calling areas where DTMF was not available, and for callers who did not have DTMF phones.

Today, ASR is opening the door to more sophisticated applications, using large-scale, grammar-based vocabularies in which the interface can recognize human speech beyond the previous 16-word limit of DTMF.

More significantly, ASR permits callers to respond more naturally, speaking as they would to an agent.

This feature is becoming a necessity as ASR is implemented in more sophisticated applications, such as stock quotation systems, home banking, small directory inquiry systems, postal code systems, help desk systems, and collect call automation.

Large vocabulary speech recognition is available only on SCbus-based systems.

For more information, refer to the *Symposium OPEN IVR 4.0 Speech Recognition Option Guide*.

Fax option

The Symposium OPEN IVR 4.0 fax option provides you with the resources to create interactive voice response applications that can send and receive faxes. Using this option, you can manipulate both fax and voice messages.

The message-management facilities that you already use for voice messaging, such as scheduled delivery and outdialing, can also be used to send and receive faxes by including an RFAX or an SFAX cell in your application. In addition to integrating fax and voice mail in the same application, other typical applications that you can create using the fax option include fax on demand and software updates.

The RFAX cell enables your application to receive a fax and save it for immediate or future delivery to a specified fax machine. Voice storage numbers (VSNs) are assigned to store received faxes, the same as they are used to store voice messages. Consequently, you can store fax VSNs in message databases or in SQL databases.

The SFAX cell allows your application to send one ASCII file followed by up to 30 TIFF files assigned as VSNs or fax messages. Therefore, your fax can consist of a single ASCII file, multiple TIFF files or messages, or a combination of both. The ASCII file can contain special commands that merge images and text to create a fax cover page.

Gammalink fax option is available only on SCbus-based systems.

Brooktrout fax option is available only on PEB-based systems.

For more information, refer to the *Symposium OPEN IVR 4.0 Fax Option Guide*.

Web connectivity

The Web connectivity option enables developers to build applications that interface with the public switch telephone network (PSTN) and the Web. A single application can interact with PSTN callers and Web users.

IVR resources (such as Text-to-Speech) and interfaces (such as Host and Database Connectivity) can be made available to Web users. This also provides additional security to the system owner, as the IVR node can effectively act as firewall between the Internet and their private data network.

To the Web user, the combined Web and IVR environment exhibits typical behavior of an ordinary Web experience, except that the integration of telephony services provides an enhanced service.

For more information, refer to the *Symposium OPEN IVR 4.0 Web Option Guide*.

Integration Package for Meridian Link

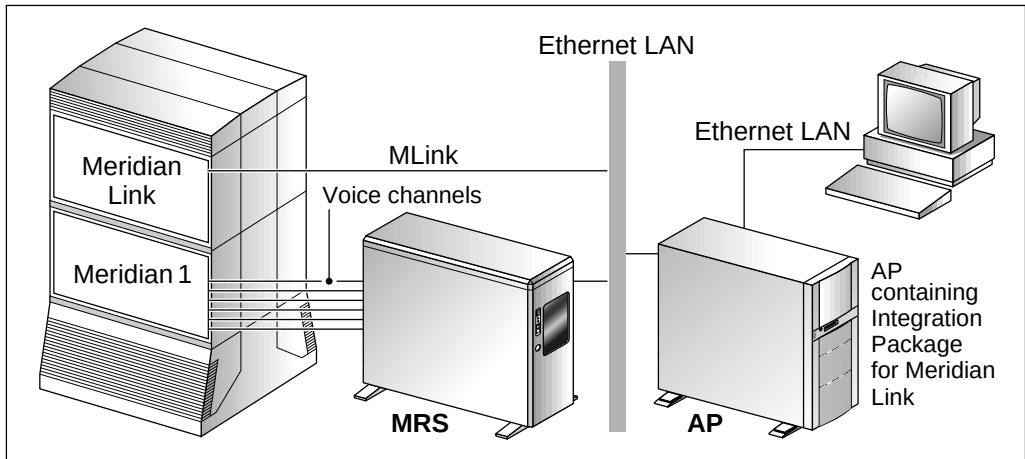
The Integration Package for Meridian Link (formerly Call Centre Integration Package - CCIP) integrates Symposium OPEN IVR with Meridian Link on the Meridian 1 Private Branch Exchange (PBX). This package adds the following functionality to Symposium OPEN IVR:

- digital login of IVR agents configured as Automatic Call Distribution (ACD) positions through Meridian Link messaging
- the ability to transfer and conference calls through Meridian Link messaging (a fast one-step transfer function takes advantage of Meridian Link's fast transfer feature).
- provision of caller information, such as Calling Line Identification (CLID), Dialed Number Identification Service (DNIS), Call ID, and Hold In Queue with an IVR treatment variable, to Symposium OPEN IVR.
- the ability to extract data from a call-offered to a predefined agent set
- debug and support facilities to trace messages
- an administration interface that is accessible both locally and remotely by modem

Integration Package for Meridian Link configuration

The AP and Meridian Link are physically connected by an Ethernet LAN, and they communicate using the proprietary Meridian Link (MLINK) message set over Transmission Control Protocol/Internet Protocol (TCP/IP).

Figure 4-1 shows how the Integration Package for Meridian Link is configured in an environment where the AP and MRS run on separate processors.

Figure 4-1: Integration Package for Meridian Link configuration

The Integration Package also supports Token Ring. In a Token Ring environment, the AP has an Ethernet connection to Meridian Link, and a Token Ring connection to the customer LAN.

For more information, refer to the *Symposium OPEN IVR 4.0 Integration Package for Meridian Link User Guide*.

SQL Database Connectivity

SQL Server overview

The Symposium OPEN IVR 4.0 SQL Server interfaces with several SQL-based ANSI-compliant relational and non-relational database management systems (DBMS) that enable your applications to retrieve, insert, update, and delete information stored in the supported databases.

Supported software

The Symposium OPEN IVR 4.0 SQL server is compatible with the following relational database management systems (RDMS) that support ANSI SQL:

- Informix-SE Version 7.2
- Ingres 6.4/06; Open INGRES 1.2/01
- Oracle 7.3

- Sybase 10.0.3 Client Open is supported to work with Sybase Open System 10 and 11 Server
- Microsoft SQL Server 6.5 on Windows NT through OpenLink

Using databases

AP software and IVR Developer support application access to a message database and provide a method for building a simple database with the Information Database Editor. You can also develop applications that access SQL-based databases, using cells that support the following SQL commands:

- QCMD
- QCNT
- QDEL
- QINS
- QSEL
- QROW
- QUPD

For more information, refer to the *Symposium OPEN IVR 4.0 SQL Server User Guide*.

Host connectivity

Overview

Symposium OPEN IVR 4.0 host connectivity options enable Symposium OPEN IVR applications to automatically and transparently transfer data between a mainframe host and an AP or MRS/AP.

Supported communications environments

Host connectivity options provide an IVR application running on the AP with the ability to interface with several types of host computers over a number of different topologies. Symposium OPEN IVR 4.0 supports the following host communication environments:

- IBM 3270 via SNA over SDLC
- IBM 3270 via SNA over Token Ring
- IBM 3270 via TCP/IP over Ethernet
- IBM 5250 via SNA over SDLC
- IBM 5250 via SNA over Token Ring
- IBM 5250 via TCP/IP over Ethernet
- VT100 asynchronous

For more information, refer to the *Symposium OPEN IVR 4.0 SNA Host Communications Guide* and the *Symposium OPEN IVR 4.0 VT100 Host Connectivity Configuration and Development Guide*.

Dial Pulse Detection (SCbus only)

The Dial Pulse Detection (DPD) feature is implemented using downloadable firmware onto the following boards:

- D/41ESC (Specially enabled for DPD)
- D/160SC-LS-IDPD
- D/320SC-IDPD
- D/300SC-E1-IDPD

Note 1: DPD is not field upgradable. DPD cards must be provided by Nortel.

Note 2: DPD is not available in Europe.

DPD features

DPD offers the following features:

- Dial Pulse Detection (DPD) capability is performed by the DPD-enabled boards.
- Initial zero-training is not required. The DPD algorithm is adaptive and can train on any large DPD digit (digit '5' or greater).
- DPD performs simultaneously with DTMF detection and can differentiate between a DTMF or pulse dialed digit.
- DPD supports dial pulse cut-through with local echo cancellation.
- DPD supports a generic 10 pulses per second (pps) parameter file for all unsupported countries in the areas where 10 pps is a standard dialing rate for dial-pulse telephones.
- DPD is not a shared resource; it is enabled on all channels on the boards that are capable of DPD.
- DPD does not require complex resource management and is practically invisible to the application developer. The dial pulse detection becomes visible to the developer if zero-training is used.

Note: When DPD is enabled on a board, the speed control feature does not work on that board with dial pulse detection capability.

Country parameters

The DPD algorithm was specifically tuned based on detailed data collection from the following countries:

- Brazil
- Colombia
- Argentina
- Venezuela
- India
- Mexico

For countries not listed above, Nortel recommends that you use a generic algorithm. As more countries are qualified for DPD, they will be made available in future releases of Symposium OPEN IVR.

For more information, refer to the *Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide*.

CAS and ISDN Signaling

Overview

Integrating either the E1 CAS/ISDN PRI card or the T1 ISDN PRI card into your Symposium OPEN IVR 4.0 system, according to your needs, enables an attachment to a telephone digital connection, which supports a number of different signaling protocols.

E1 CAS/ISDN PRI Signaling features

This section provides information about the E1 CAS/ISDN PRI Signaling Option features.

Package components

The E1 CAS/ISDN PRI Signaling option supports the following components:

- EISA Configuration Utility (ECU) File
- CAS Signaling
- DPNSS Signaling
- DPNSS Enhanced Signaling

- ETS-300 Euro ISDN Signaling
- QSIG Signaling

Note: Every shipment of software includes a license file that specifies the options for that installation.

E1 signaling systems

CAS signaling - supported countries and network protocols

Symposium OPEN IVR 4.0 supports E1 MFC R2 CAS signaling for the following countries and protocols:

- Belgium
- Brazil
- China
- EEMA
- Malaysia (Singapore)
- Mexico

ISDN PRI signaling - supported network protocols

Symposium OPEN IVR 4.0 supports the following E1 ISDN PRI network protocols:

- DPNSS (Digital Private Network Signaling System)
- DPNSS Enhanced
- ETS300 (Euro ISDN)
- QSIG

Note: You cannot use the COUT cell with the above signaling protocols.

Supported signaling features

Symposium OPEN IVR 4.0 supports the following E1 ISDN PRI signaling features:

- Incoming calls with ANI (CLI) and DNIS (DDI) information
- Outgoing calls with the capability to send the calling party ID

- BOUT or CONP cell call conferencing (via an on-board switching matrix)

Including the features listed above, DPNSS Enhanced supports the following features:

- Call diversion information
- Called and Calling-line category information
- Route optimization

T1 ISDN PRI features

This section provides information about the T1 ISDN PRI features. For information about the E1 CAS and ISDN PRI Signaling Option features, see “E1 CAS/ISDN PRI Signaling features” on page 4-9.

Package components

The following T1 ISDN protocols are included in the T1 ISDN PRI option:

- ISDN DMS Protocol
- ISDN NTT Protocol
- ISDN NT1 Protocol
- ISDN 4ESS Protocol
- ISDN 5ESS Protocol

Note: The 4ESS and 5ESS are AT&T switches. The DMS is a Nortel switch. The NTT protocol is for the NTT INS1500 switch.

Features

The T1 ISDN PRI option provides a call-control interface for developing applications for multiple network interface technologies.

The T1 ISDN PRI supports:

- ANI (CLI)
- DNIS (DDI)
- inbound and outbound calls
- call setup and tear-down

Supported protocols

T1 ISDN PRI supports the following T1 ISDN PRI protocols:

- DMS/250 (U.S., Canada)
- DMS/100 (U.S.)
- NTT (Japan)
- 4ESS (U.S. AT&T)
- 5ESS (U.S. AT&T)

Note: The 4ESS and 5ESS are AT&T switches. The DMS is a Nortel switch. The NTT protocol is for the NTT INS1500 switch.

For more information, refer to the *Symposium OPEN IVR 4.0 CAS and ISDN Signaling Option Guide*.

Line Side E1 connectivity (SCbus only)

Overview

The Line Side E1 card is an intelligent peripheral equipment (IPE) line card that provides a direct all-digital connection between E1-compatible terminal equipment (such as a voice messaging system or a voice response unit) and a Meridian 1 system (Option 11 through Option 81) with station side features. No channel bank equipment is required, resulting in a more robust and reliable connection than one that requires the conversion of the signal from digital to analog back to digital. The Line Side E1 interface is appropriate for any application where both E1 connectivity and line side functionality are required.

Availability

This option is supported in the following countries. It is not available in the United States or Canada.

Argentina	Ecuador	Luxembourg	Sweden
Austria	Finland	Mexico	Switzerland
Belgium	France	Norway	Turkey
Brazil	Germany	Peru	United Arab Emirates
Chile	Greece	Portugal	United Kingdom
Colombia	Holland	Puerto Rico	Venezuela
Costa Rica	Ireland	Qatar	
Denmark	Italy	Saudi Arabia	
Dominican Republic	Jamaica	Spain	

Line Side E1 call operation

The Line Side E1 card performs call processing separately on each of its 30 channels. The signaling is performed through channel associated signaling (CAS), which is standard for E1 communication. CAS simulates standard battery and ground on an analog line by sending a meaningful combination of ones and zeros across the line that correlate to the electrical impulses that standard analog signaling sends.

Glossary

This glossary provides definitions of many terms used in the documentation for Symposium OPEN IVR. Some of these terms may have additional meanings not described here.

acoustic coupler

A device (such as the Audio Interface Unit) used to interface between sound equipment and a port on the MRS/AP.

Administration Tools

A set of tools, accessible from the Symposium OPEN IVR Control Panel, used to configure and control the Symposium OPEN IVR system.

agent

A person whose primary role is to handle customer calls that are transferred from a queue within a call center.

ANI

Automatic Number Identification. A protocol implemented in some trunk cards that records the calling number.

ANSI

American National Standards Institute.

AP

Application Processor. A computer or workstation running the AP software in a distributed configuration. Symposium OPEN IVR combines one or more Multimedia Resource Servers (MRSs) with a general-purpose Application Processor (AP) to provide a versatile application development and run-time environment. The AP provides the environment for developing, managing, and controlling the IVR applications.

AP software

Nortel's premiere voice application development and management software package that runs on the Application Processor (AP).

API

Application Programming Interface. Software libraries that enable the development of applications in a new environment, which communicate with applications in the legacy system. Software libraries that provide a standard access to services provided by a software package.

application

- 1 In Symposium OPEN IVR, a customized program that controls activity on one or more telephone trunks connected to an MRS voice system.
- 2 On a host computer, any type of program that carries out a task.

application developer

A person who creates Symposium OPEN IVR applications.

Application Editor

A utility used to graphically create or edit interactive voice response applications.

application processor

See AP.

Automatic Number Identification

See ANI.

branch

A pathway from one cell in an application to the next cell.

buffers

A part of computer memory used to store information from one cell and pass it to another cell.

caller

A person whose phone call is received or originated by a Symposium OPEN IVR application.

call flow

A diagram of a Symposium OPEN IVR application.

cell

The basic element of an application. Each cell causes some action to be performed—for example, playing a prompt to a caller. Each cell has a set of branches to other cells. After the cell performs its action, it determines which branch the application should follow to the next cell.

channel

- 1 A telephone trunk within a cluster of MRSs.
- 2 A path of communication between the AP and a communications or transmission facility. Channel sequences can span multiple MRSs, and their numbering starts at zero (0). Also referred to as a **port**.

CO

Central Office.

Control Panel

The Symposium OPEN IVR panel containing the buttons from which you can access the Administration, Information Database Editor, Report, Application, Prompt Management, and SmartHelp tools.

database

A collection of related information arranged for ease and speed of retrieval.

Dialed Number Identification Service

See DNIS.

DID

Direct inward dialing. A protocol used by some telephone equipment that allows callers to dial directly to an extension within a telephone system without going through a switchboard.

direct inward dialing

See DID.

DNIS

Dialed Number Identification Service. A feature of 800 and 900 numbers, in which the number dialed or a portion of it is sent to the MRS and stored in the DIGITS buffer in OPEN IVR.

DTMF

Dual Tone Multi-Frequency. Touchtone (push-button) dialing. DTMF is used to encode digits over analog telephone lines. Applications can collect information from callers by having them press telephone keys to create DTMF tones.

Dual Tone Multi-Frequency

See DTMF.

EXEC

The cell that executes an OPEN IVR application on the current channel.

falsing

A condition in which certain frequencies in a voice recording are incorrectly interpreted as DTMF tones. In some applications, false DTMF tones may cause the system to perform unwanted activities, such as selecting menu choices, terminating playback, or hanging up prematurely.

field

The specific location of information (data) within a record in a relational database.

gain

The increase in signal power, measured in decibels, when the signal is boosted by an electronic device.

ground start

A method of signaling on the trunk in which one side of the two wires (typically the ring wire) is momentarily grounded to obtain a dial tone. This type of signal is normally used with PBXs.

hook-flash

Depressing and releasing the plunger or handset-cradle on a telephone.

host link

The ability of Symposium OPEN IVR to communicate with other host computers supported by one of the OPEN IVR gateway products.

information database

See database.

Information Database Editor

A utility used to create a message or information database, and to edit an information database.

IVR

Interactive Voice Response.

IVR Developer

A licensed component of AP software that provides application development tools to graphically create or edit interactive voice response applications.

loopstart

A method of signalling on the trunk in which a supervisory signal is given (by taking the phone off the hook). Loopstart seizes the line by bridging the resistance of the tip and ring wires of the telephone line to obtain a dial tone. Loopstart signalling is normally used for single lines or key systems.

MF tones

Multifrequency tones. These are tones used by ANI. Symposium OPEN IVR applications can receive and store MF digits when the ANI option is in use.

MRS

Multimedia Resource Server. Symposium OPEN IVR combines one or more Multimedia Resource Servers (MRSs) with a general-purpose Application Processor (AP) to provide a versatile application development and/or run-time environment.

MRS/AP

A single unit that runs a “folded” configuration; that is, a configuration that includes both the Multimedia Resource Server and the Application Processor. The MRS/AP contains the functionality of the other platforms, but in a single hardware unit.

MRS/Rack

A unit comprising a rack-mountable Application Processor (AP) and a rack-mountable Multimedia Resource Server (MRS). Multiple MRS/Racks can be installed in cabinets and stacked to take up less room.

MRS/Tower

The MRS/Tower platform is comprised of an Application Processor (AP) and a Tower Multimedia Resource Server (MRS).

multifrequency tones

See MF tones.

Multimedia Resource Server

See MRS.

node

A grouping composed of an AP (running Symposium OPEN IVR) connected to one or more MRSs.

parameter

A variable used to define the function of Symposium OPEN IVR cells. You set parameters in the parameter window for each cell (when using the Application Editor), or in the cell window (when using the character-based Application Editor).

PBX

Private Branch Exchange. A private phone system that allows communication within a business and between the business and the public telephone system.

port

A path of communication between the AP and a communications or transmission facility. Port sequences can span multiple MRSs, and their numbering starts at zero (0). Also referred to as a **channel**. *See also* trunk.

private branch exchange

See PBX.

prompt

A voice recording that helps lead a caller through a Symposium OPEN IVR application.

Prompt Management tools

A set of tools, accessed from the Symposium OPEN IVR Control Panel, that is used to record, load, and update prompts.

record

- 1 To store sound on tape or disk for later playback.
- 2 In a database, a group of related data items (fields) treated as one item.

Reorder tone

A reorder tone is a fast busy or channel busy tone, which is applied 120 times per minute. The tone means that all switching paths are busy, all toll trunks are busy, there are equipment blockages, the caller dialed an unassigned code, or the digits dialed were scrambled.

Reports tools

A set of tools, accessed from the Symposium OPEN IVR Control Panel, that is used to generate reports about the system's activities.

Send Fax

See SFAX.

SFAX

Send Fax. Cell that sends one or more faxes to a destination fax machine.

SQL

Structured Query Language. A type of relational database.

Structured Query Language

See SQL.

subscriber

A person serviced by a voice processing application (such as voice mail).

system administrator

A person responsible for configuring MRSs, installing and running Symposium OPEN IVR applications, managing prompts, and running reports.

telco

Telephone company.

Terminal Resource Server

See TRS.

TRS

trunk

A communication line between two switching systems, frequently referred to as a port. Trunk numbering starts at 1.

voice storage number

See VSN.

VSN

Voice storage number. Internal numbering system used by the MRS for prompts, messages, and faxes (if the fax option is installed); Symposium OPEN IVR uses its own numbering system.

wink

A momentary interruption in single frequency tone that indicates the distant central office (CO) is ready to receive the digits that were just dialed.

X-Window Application Editor

See XAE.

XAE

X-Window Application Editor. Another term for the Application Editor.

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Symposium OPEN IVR

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